AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS

1-8. (cancelled)

9. (original) A method of processing an ultra-thin resist, comprising:

depositing the ultra-thin resist over a hardmask layer that is over a semiconductor substrate, the ultra-thin resist having a thickness less than about 5,000 Å;

irradiating the ultra-thin resist with electromagnetic radiation having a wavelength of about 250 nm or less;

developing the ultra-thin resist with a developer to form a patterned resist, wherein the ultra-thin resist is not dried; and

etching the hardmask layer with an etch solution within about 1 minute after developing to provide a patterned hardmask.

10. (original) The method of claim 9, wherein the ultra-thin resist has a thickness of less than about 3,000 Å.

11. (original) The method of claim 9, wherein the hardmask layer has a thickness of about 100 Å or more and about 5,000 Å or less.

12. (original) The method of claim 9, wherein the hardmask layer comprises an oxide and the etch solution comprises a buffered oxide etch solution or an HF solution.

13. (original) The method of claim 9, wherein the hardmask layer comprises a nitride and the etch solution comprises a phosphoric acid solution.

14. (original) The method of claim 9, wherein the hardmask layer comprises a metal containing material and the etch solution comprises a peroxide solution.

15. (original) The method of claim 9, wherein the metal containing material comprises at least one selected from the group consisting of titanium, titanium nitride, tungsten, tantalum, and tantalum nitride.

16. (original) The method of claim 9, wherein the electromagnetic radiation has a wavelength of about 200 nm or less.

17. (original) The method of claim 9, wherein the electromagnetic radiation comprises at least one of light having a wavelength about 248 nm, about 193 nm, about 157 nm, about 13 nm, about 11 nm, or about 1 nm, and e-beams.

18. (original) The method of claim 9, wherein the hardmask layer within about 30 seconds after developing.

19. (original) The method of claim 9, further comprising rinsing the patterned resist with a solution comprising deionized water just prior to etching the hardmask layer.

20. (new) A method of processing an ultra-thin positive resist, comprising:

depositing the ultra-thin positive resist over a hardmask layer that is over a semiconductor substrate, the ultra-thin positive resist having a thickness less than about 3,000 Å and the hardmask layer having a thickness of about 100 Å or more and about 5,000 Å or less;

irradiating the ultra-thin positive resist with electromagnetic radiation having a wavelength of about 250 nm or less;

developing the ultra-thin positive resist with a developer to form a patterned resist, wherein the ultra-thin positive resist is not dried; and

etching the hardmask layer with an etch solution within about 1 minute after developing to provide a patterned hardmask.

21. (new) The method of claim 9, wherein the hardmask layer has a thickness of about 200 Å or more and about 3,000 Å or less.

22. (new) The method of claim 9, wherein the hardmask layer comprises an oxide and the etch solution comprises a buffered oxide etch solution or an HF solution.

23. (new) The method of claim 9, wherein the hardmask layer comprises a nitride and the etch solution comprises a phosphoric acid solution.

24. (new) The method of claim 9, wherein the hardmask layer comprises a metal containing material and the etch solution comprises a peroxide solution.

25. (new) The method of claim 9, wherein the metal containing material comprises at least one selected from the group consisting of titanium, titanium nitride, tungsten, tantalum, and tantalum nitride.

26. (new) The method of claim 9, wherein the electromagnetic radiation has a wavelength of about 200 nm or less.

27. (new) The method of claim 9, wherein the hardmask layer within about 30 seconds after developing.